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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,589	11/21/2003	Hidemasa Sawada	117827	9393
25944	7590	01/15/2008		
OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850			EXAMINER SHAH, MANISH S	
			ART UNIT 2853	PAPER NUMBER
			MAIL DATE 01/15/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/717,589	<b>Applicant(s)</b> SAWADA, HIDEMASA	
	<b>Examiner</b> Manish S. Shah	<b>Art Unit</b> 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-9, 11, 12 and 15-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-9, 11, 12 and 15-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 6-7, 15 & 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yatake et al. (# US 5746818) in view of Hashimoto et al. (# US 6126280).

Yatake et al. discloses an image recording method (column: 13, line: 5-15) including a pretreatment step of causing a pretreatment liquid containing propylene glycol monopropyl ether (column: 12, line: 35-45; column: 5, line: 18-26) and a cationic substance to adhere on a medium (column: 11, line: 40-65); and a recording step of forming after the pretreatment step, an image on the recording medium by using an aqueous pigment ink containing a pigment (column: 3, line: 10-65) and resin microparticles (water soluble resin) (column: 10, line: 19-45) having a negative surface charge (column: 13, line: 60-67; column: 14, line: 1-10). They also disclose that the pretreatment liquid contains same water soluble solvent as the ink composition (column: 12, line: 35-45), which contains dipropylene glycol monopropyl ether in an amount of 5 to 60% by weight (column: 5, line: 25-27) and cationic substance in an amount of 1 to 10% by weight (column: 12, line: 13-17). They also disclose that the pigment contains in

an amount of 2 to 15% (column: 3, line: 60-62), and the pigment, which has an average of volume particle size of 10 to 300 nm (column: 23, line: 20-23).

Yatake discloses all the limitation of the image recording method except that the medium is a cloth, and a hot press step for fixing after recording step..

Hashimoto et al. teaches that the to get the excellent ink absorption printing medium, and sharp printed image, the print medium is selected from paper, cloth (column: 6, line: 1-5). They also teaches that to get the blur free printed image, inkjet recording method having the steps of heat and press after printing (column: 5, line: 60-66; column: 7, line: 1-5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing medium and printing method of Yatake by the aforementioned teaching of Hashimoto et al. in order to excellent ink absorption printing medium, and sharp blur free printed image.

It would have been obvious to one having ordinary skill in the art at the time of invention was made to incorporate the pretreatment liquid is coated on the cloth in an amount of 0.0216 g/inch<sup>2</sup>, and ink with circle diameter of 2 cm, since it has been held that it is not inventive to discovering and optimum value or workable ranges by routine experimentation. *In re Aller*, 105 USPQ 233 (CCPA1955).

2. Claims 1, 3-4, 6-7, 15 & 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota et al. (# US 6086197) in view of Yatake (# US 5746818) and Hashimoto et al. (# US 6126280).

Kubota et al. discloses an image recording method (see Abstract) including a pretreatment step of causing a pretreatment liquid (reaction solution) containing dipropylene glycol (column: 3, line: 10-25; column: 5, line: 20-45) and a cationic substance to adhere on a medium (column: 3, line: 60-67); and a recording step of forming after the pretreatment step, an image on the recording medium by using an aqueous pigment ink containing a pigment (column: 6, line: 55-67; column: 7, line: 1-20) and resin microparticles, wherein resin particle is resin emulsion (column: 7, line: 19-45) having a negative surface charge. They also discloses that the pretreatment liquid contains propylene glycol in an amount of 2 to 20% by weight (column: 5, line: 25-27) and cationic substance in an amount of 5 to 25% by weight (column: 4, line: 1-10). They also disclose that the pigment contains in an amount of 2 to 15% (column: 7, line: 15-25), and the resin emulsion has an average of volume particle size of 5 to 100 nm (column: 7, line: 35-40).

Kubota et al. differs from the claim of the present invention is that (1) the pretreatment liquid contains dipropylene glycol monopropyl ether, and a pigment has an average of volume particle size of 100 to 5 micrometer. (2) The image recording method except that the medium is a cloth and a hot press step for fixing after recording step.

Yatake teaches that to improve the penetration of the ink and prevent the clogging of the nozzle, the pretreatment liquid contains same water soluble solvent as the ink composition, which contains dipropylene glycol monopropyl ether in the amount of 5 to 10% by weight (column: 5, line: 1-26; column: 12, line: 35-45), and the pigment has an average of volume particle size of 10 to 300 nm (column: 23, line: 20-23).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the pretreatment liquid of Kubota et al. by the aforementioned teaching of Yatake in order to improve the penetration of the ink and prevent the clogging of the nozzle, which gives high quality printed image.

Hashimoto et al. teaches that to get the excellent ink absorption printing medium, and sharp printed image, the print medium is selected from paper, cloth (column: 6, line: 1-5). They also teaches that to get the blur free printed image, inkjet recording method having the steps of heat and press after printing (column: 5, line: 60-66; column: 7, line: 1-5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing medium and printing method of Kubota by the aforementioned teaching of Hashimoto et al. in order to excellent ink absorption printing medium, and sharp blur free printed image.

It would have been obvious to one having ordinary skill in the art at the time of invention was made to incorporate the pretreatment liquid is coated on the cloth in an amount of 0.0216 g/inch<sup>2</sup>, and ink with circle diameter of 2 cm, since it has been held that it is not inventive to discovering and optimum value or workable ranges by routine experimentation. *In re Aller*, 105 USPQ 233 (CCPA1955).

3. Claims 2, 11-12, 16 & 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koitabashi et al. (# US 2002/0044185 A1) in view of Yatake (# US 5746818) and Hashimoto et al. (# US 6126280):

Koitabashi et al. discloses an image recording method (column: 13, line: 5-15) including a pretreatment step of causing a pretreatment liquid containing propylene glycol ([0114]) and a cationic substance to adhere on a medium ([0110]); and a black recording step of forming after the pretreatment step, an image on the recording medium by using a black aqueous pigment ink containing a pigment ([0115], [0053]-[0090]) and resin microparticles (water soluble resin) (see Examples) having a negative surface charge (figure: 1-6); and a color recording step of forming after a specific amount of time has elapsed since the execution of the black recording step, an image on the medium by using a colored aqueous pigment ink containing a pigment other than the black pigment and resin microparticles having a negative charge ([0115]-[0125]). They also disclose that the pretreatment liquid contains propylene glycol in an amount of 5 to 40% by weight ([0114]) and cationic substance in an amount of 0.01 to 10% by weight ([0110]). They also disclose that the pigment contains in an amount of 1 to 10% ([0078]), and the pigment, which has an average of volume particle size of 0.05 to 0.3 micrometer ([0067]).

Koitabashi et al. differs from the claim of the present invention is that (1) the pretreatment liquid contains dipropylene glycol monopropyl ether, and in the amount of 5 to 10% by weight. (2) The image recording method except that the medium is a cloth and hot press step for fixation after the recording step..

Yatake teaches that to improve the penetration of the ink and prevent the clogging of the nozzle, the pretreatment liquid contains same water-soluble solvent as

the ink composition, which contains dipropylene glycol monopropyl ether in the amount of 5 to 10% by weight (column: 5, line: 1-26; column: 12, line: 35-45).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the pretreatment liquid of Koitabashi et al. by the aforementioned teaching of Yatake in order to improve the penetration of the ink and prevent the clogging of the nozzle, which gives high quality printed image.

Hashimoto et al. teaches that to get the excellent ink absorption printing medium, and sharp printed image, the print medium is selected from paper or cloth (column: 6, line: 1-5). They also teaches that to get the blur free printed image, inkjet recording method having the steps of heat and press after printing (column: 5, line: 60-66; column: 7, line: 1-5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing medium and printing method of Yatake by the aforementioned teaching of Hashimoto et al. in order to excellent ink absorption printing medium, and sharp blur free printed image.

It would have been obvious to one having ordinary skill in the art at the time of invention was made to incorporate the pretreatment liquid is coated on the cloth in an amount of  $0.0216 \text{ g/inch}^2$ , and ink with circle diameter of 2 cm, since it has been held that it is not inventive to discovering and optimum value or workable ranges by routine experimentation. *In re Aller*, 105 USPQ 233 (CCPA1955).



4. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koitabashi et al. (# US 2002/0044185 A1) in view of Yatake (# US 5746818) and Hashimoto et al. (# US 6126280) as applied to claims 2 & 11-12 above, and further in view of Kubota et al. (# US 6086197).

Koitabashi et al. and Yatake discloses all the limitation of the image recording method except that the resin microparticles are a resin emulsion.

Kubota teaches that to inhibiting the penetration of the colorant, accelerating the fixation, and rubbing resistance printed image, the ink composition includes the pigment and resin emulsion (column: 7, line: 20-60) in an amount of 0.1 to 40% by weight (column: 8, line: 20-24) and has a particle size of 5 to 100 nm (column: 7, line: 35-38).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the pretreatment liquid of Koitabashi et al. as modified by the aforementioned teaching of Kubota in order to inhibiting the penetration of the colorant, accelerating the fixation, and rubbing resistance printed image.

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (571) 272-2152. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:  
10/717,589  
Art Unit: 2853

Page 10

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Manish S. Shah  
Primary Examiner  
Art Unit 2853

MSS

1/9/08